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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 24 AUG 2004

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Applicant's or agent's file reference P21756PCAU	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU2003/001454	International Filing Date (day/month/year) 3 November 2003	Priority Date (day/month/year) 1 November 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ A23L 1/025		
Applicant MARS INCORPORATED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 19 May 2004	Date of completion of the report 13 August 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer CHRISTOPHER LUTON Telephone No. (02) 6283 2256

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I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
 pages , as amended (together with any statement) under Article 19,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-21	YES
	Claims	NO
Inventive step (IS)	Claims 1-21	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-21	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1 – Chemical Abstracts abstract accession no. 79:64846

D2 – Chemical Abstracts abstract accession no. 65:6971

D3 – Mizrahi and Berk

NOVELTY and INVENTIVE STEP Claims 1-21

The present invention relates to methods and apparatus for modifying the viscosity of pureed vegetable matter involving the application of ultrasonic energy thereto.

D1 describes the modification of the viscosity of citrus juices by the application of ultrasonic energy. The Applicant submitted in response to the first International Preliminary Examination Report that D1 fails to disclose the use of "low frequency" ultrasonic energy in the range of 16-100kHz. The Applicant submitted in response to the first International Preliminary Examination Report that D1 fails to disclose the use of a sonotrode and fails to teach cavitation of water within the puree to effect breakdown of cell wall material. Therefore, the claims are novel and involve an inventive step in light of D1.

D2 describes the use of ultrasonic viscosity reduction (see first line) to facilitate the process of juice concentration. D3 discloses the pre-treatment of juices with ultrasonic energy in order to provide a decrease in viscosity. In response to the first International Preliminary Examination Report the Applicant acknowledged that D2 and D3 disclose the use of ultrasonic energy to modify viscosity. However, the Applicant submitted that "that ultrasonic sonotrodes having the capability of establishing a standing wave providing cavitation at relatively low ultrasonic frequencies in aqueous solutions ... have only been ... developed within the last 5-10 years". Thus, the Applicant submitted, D2 and D3 do not teach or suggest equipment capable of performing the present invention. Therefore, the claims are novel and involve an inventive step in light of D2 and D3.